Chapter 16: Conduct Off-the-Shelf (OTS) Search

What Is It?

An off-the-shelf (OTS) search is a critical step you take **before** you design resident courseware or alternative deliveries. The principle is very simple. All you are really doing is researching products that have already been developed. If such products will work for the instruction you plan to design, you don't want to reinvent the wheel by developing the same products yourself. Also, you want to make sure your instruction is as interesting as possible. Adult learning theory tells us that the more senses (sight, hearing, touching, etc.) you engage, the greater the impact your training will have on the learner. Therefore, you want to research what commercially or government produced products are out there so you can take advantage of them.

There are two types of OTS searches:

- **Commercial-off-the-shelf (COTS)--**a search for products developed by private industry. COTS products can be pricey, but don't discard them. Often, businesses will be willing to "cut you a deal" to develop a business relationship with the Coast Guard or to gain users and advertising for their products.

- **Government-off-the-shelf (GOTS)--**a search of products developed by Federal agencies. These products are often "free" to other agency users.

Therefore, an OTS search just means thoroughly researching courseware, static, and interactive media (IM) products that have already been produced to see if they have good application to the training you're developing.

**What Is It?
(continued)**

Part of a good COTS or GOTS search is evaluation. You don't want to buy something that won't work for Coast Guard training, so you'll want to try out these products and evaluate them with an audience similar to the students who will actually use them. If the products work and achieve the desired result, if the cost is right, and if you can fit such products into your larger training design, you will probably have saved yourself some significant money.

**How Do I Conduct an
OTS Search?**

At one time, such research might have been quite difficult to accomplish and might have taken many hours to complete.

Today, thanks to the wonders of technology, an OTS search can be completed relatively easily and quickly.

For the commercial side of the house:

- Use the internet and search for IM training products that cover particular subjects or tasks.

- Look in trade and professional magazines such as "Training" for advertisements from companies who produce training products. You can respond to promising advertisements by e-mailing or calling to see if the companies have anything you can use.

For the government side of the house:

- Use the internet to research the Navy's Shipboard Training Enhancement Program (STEP) catalog.

- Look at the Naval Education and Training Professional Development and Technology Center (NETPDTC) web site.

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For the government side of the house:

- Use the internet to research the Navy's Shipboard Training Enhancement Program (STEP) catalog.

- Look at the Naval Education and Training Professional Development and Technology Center (NETPDTC) web site.

- Take a look at the products listed on the Defense Automated Visual Information System (DAVIS) and Defense Instructional Technology Information System (DITIS) databases. These systems provide information on the thousands of audio-visual (AV) and interactive multimedia instruction (IMI) products currently available from Department of Defense (DOD). Although primarily developed to support DOD, the DAVIS or DITIS site is open to the general public and other federal agencies. To request copies, you coordinate with the National Audiovisual Center.

Conduct Off-the-Shelf (OTS) Search

How Do I Conduct an OTS Search? (continued)

- Check the DAVIS or DITIS web site for more details on how to order copies of these products. Some of the products may have copyright or security restrictions, limiting who can view or duplicate products. The web site will tell you what restrictions apply.

PTC has created a tool that will help you go through the steps required for an OTS search. This document will also serve as an audit trail to capture the results of your search.

How Long Will It Take?

In one sense, an OTS search, like housework, is never really "done." For best results:

- Spend about a week doing an initial search.

- Start contacting commercial businesses or going through the steps to acquire a GOTS product.

- Coordinate events at which businesses can demonstrate their products or review sample products you've obtained. This part of the search can be time-consuming, since you have to coordinate demos and then work the timing for demos into your work schedule.

- Make arrangements with the company to have instructors or students do further evaluation on the products. Evaluation is also a very time-consuming and resource-intensive part of an OTS search.

Jointly with our other TRACENs, PTC has developed an Interactive Courseware (ICW) Standards & Styles Guide. This document is part of COMDTINST 1554.1 for developing ICW for the Coast Guard. Appendix A to this guide is a Commercial-Government ICW "Off-the-Shelf" Source Check. This tool will take you through the steps required to conduct an OTS search.

Conduct Off-the-Shelf (OTS) Search

How Long Will It Take? (continued)

When you've finished all of those steps, are you done? You're done for the time-being, but technology changes very quickly, and our system for getting funding for a large purchase is much slower. So, you will want to do a final, very focused COTS and GOTS search just before you buy products. The price may have gone down, or up! Products that didn't initially work on Windows NT may now be compatible. Before you spend your money, it's wise to do one final and focused COTS and GOTS search. At the end of this chapter, a Commercial and Government Off-the-Shelf (COTS/GOTS) MK "A" Product Search Results is provided as an example report.

What Will I Get Out of It?

An excellent example of what you can get out of a COTS and GOTS search is TRACEN Yorktown's current Fire Technician "A" School. At one time, the Coast Guard sent its FT students to the Navy's school. That school was extremely long. The Coast Guard gained initial cost savings by moving FT "A" School training to TRACEN Yorktown. By training only CG-specific tasks, the resulting school was shortened by many months.

Still, this "chalk and talk" school was quite difficult. Some students simply didn't fully grasp electronic theory when it was delivered in a "chalk and talk" mode.

In 1995, the school began to talk to NIDA, a company that sold trainers equipped with computer-assisted instruction. The FT School bought and installed that equipment, and the new, much more effective and efficient FT "A" School was born. NIDA supplied all the hard and software, including tests, and a course and student management program. Since the advent of computer-assisted (NIDA trainer) instruction, few students in the FT "A" School ever face rephasal or disenrollment from the course. Electronics is much easier to learn in a computer-assisted, self-paced mode.

Conduct Off-the-Shelf (OTS) Search

What Will I Get Out of It? (continued)

By examining a commercially produced trainer and associated products, the FT School was able to:

- Take advantage of a one-stop-shop company with cutting edge experience in delivering electronic and electrical training to the military and private sector businesses.
- Avoid in-house or contractor development of costly training.
- Start a trend which has quickly spread to other schools who train electronics & electricity (EMs, GMs).

But, one note of caution for OTS products. Take a look at the "**Other Questions/Issues to Consider**" page of the Commercial-Government ICW "Off-the-Shelf" Source Check. There can be a down side to buying COTS products. When you're evaluating products, be sure you consider issues such as:

- Compatibility with SWSIII and Windows NT.
- Life-cycle costs and management concerns.
- Whether the product has a course management system component (tracks student performance).
- Whether the course can or cannot be modified.
- Usability issues (how well it matches CG objectives, does it over-train/under-train?).
- Is there an area for students to take notes (bookmarks)?
- Other issues.

Faithfully following all those steps will ensure that the COTS or GOTS products you choose are beneficial to Coast Guard training.

Why and When Do I Conduct an OTS Search?

Why:

If we had the time, it would make sense to do an OTS search for every Coast Guard training program we have. However, since we probably don't have time to do that, it is most critical to do a search when you are considering converting an expensive resident course to an alternative delivery.

Conduct Off-the-Shelf (OTS) Search

**Why and When Do I
Conduct an OTS
Search?
(continued)**

You can save a great deal of money, over time, from such a conversion. However, if products already exist, and you can get them free (GOTS products) or fairly cheaply (COTS products), you may find that procuring such programs makes more financial sense than developing a whole new training program.

When:

This is particularly true if you are looking for core training modules for subjects that have wide application in both the military and civilian sectors. For example, suppose you have a need to teach basic hydraulics. Many industries have a need to teach the same material. All of the military services train hydraulics. So rather than developing a Coast Guard-specific IM product, you may find it smarter and cheaper to look for what is already out there.

You can easily see how this would work. If you put together a plan to develop IM training for part of a long "A" School, the cost of developing that training will be high indeed. When you make your proposal for funding, the first question your stakeholders will ask is: "What's out there already? Could we use any of it?"

You answer those questions, in advance of requesting funding, when you do an OTS search.

Other triggers for doing an OTS search are:

- AV materials are out of date.
- Level 1 evaluations: student critiques say the "class is very boring, and needs to be made more interesting!"
- Going to a trade show or conference and seeing a really interesting company or great and affordable products or technologies.

Conduct Off-the-Shelf (OTS) Search

What Is My Role?   You are the subject matter expert (SME) instructor or course developer.

In those roles, you are likely to:

- Routinely conduct OTS searches.
- Review the results of other OTS searches.
- Conduct a focused OTS search to update former OTS searches.
- Conduct SME (content or familiarity with student needs) evaluation of OTS products.
- Coordinate demos of promising OTS demos.
- Work excellent OTS products into your course designs.
- Be on the lookout for a company like NIDA that sells a one-stop course: design all done, tests and materials all developed, student management and course tracking system already built in.
- Review workable OTS products to see where they need to be updated, upgraded or downgraded or modified.

Who Can Help Me?   Your shipmates who are instructors or course developers may have done an OTS search. They can help you.

PTC, TRACEN Yorktown staff and other TRACEN staffs have done several OTS searches to research products for FEAs, JTAs and design and development work they're asked to perform. They can help you.

You may not need help. It's a routine "research-coordinate demos-evaluate" job. The ICW Standards & Styles Guide has everything you need. If you've got a computer with internet access, you can begin an OTS search, right after reading this SOP.

What Is the Process for Getting Started?   You don't need any special permission or coordination. If you think it needs to be done, add it to the continuing work of course internal evaluation. When you get to the "demo" stage, be sure your supervisor knows. Those demos take away from usual work time, so you want to be sure everybody who might benefit gets invited.

Conduct Off-the-Shelf (OTS) Search

What Is the Process for Getting Started? (continued)

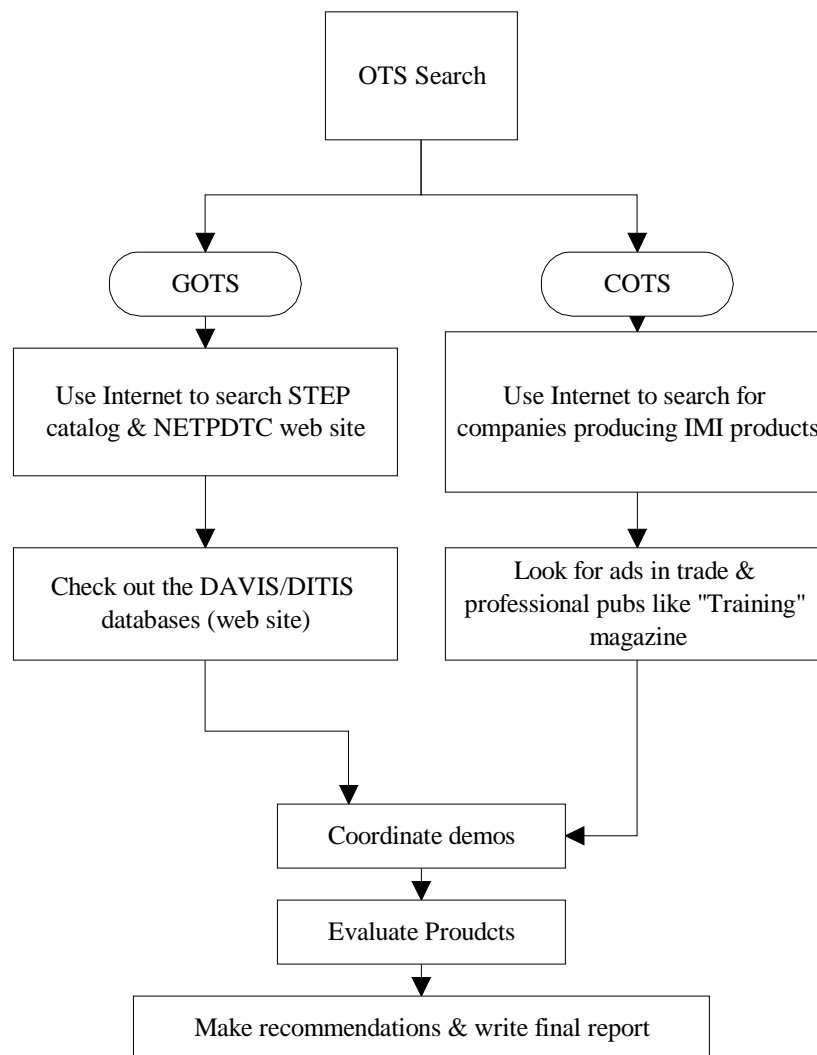As a courtesy to those who follow you and to help the command, make sure you maintain that audit trail, and pass your findings up the chain.

You may just be the one who saves the Coast Guard a significant amount of money!

OTS Job Aid

The steps for an OTS search are outlined in Appendix A of the Coast Guard' s ICW Standards & Style Guide found at the end of this chapter. Also see the OTS Search Flowchart.

Conduct Off-the-Shelf Search

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                        │   OTS Search    │
                        │                 │
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              │   GOTS    │           │   COTS    │
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        ┌────────────────────┐   ┌────────────────────┐
        │ Use Internet to    │   │ Use Internet to    │
        │ search STEP        │   │ search for         │
        │ catalog & NETPDTC  │   │ companies          │
        │ web site           │   │ producing IMI      │
        │                    │   │ products           │
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        │ Check out the      │   │ Look for ads in    │
        │ DAVIS/DITIS        │   │ trade &            │
        │ databases          │   │ professional pubs  │
        │ (web site)         │   │ like "Training"    │
        │                    │   │ magazine           │
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          │ Make recommendations & write final    │
          │ report                                │
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Appendix A

Commercial-Government
ICW "Off-the Shelf" Source Check

Overview. Subject matter experts (SMEs) and interactive courseware (ICW) developers will use this checksheet to document ICW product searches. Completed sheets provide evaluators with an overview of the sources and areas examined to try and meet a particular training need. Any supporting documents should be attached.

An an evaluator, your opinions are important! Please comment on any item you feel is important or isn't adequately covered by this questionnaire. Call the Alternative Development and Delivery Branch, Performance Technology Center, Yorktown at (757) 898-2016 if you have questions.

Need Info. What need/course are you trying to fill? _____

_____

_____

_____

Target Audience. Who is your target audience? _____

_____

_____

_____

Source Info. Where did you look and what were the results?
(Some sample sources are shown.)

Source	Contact Info	Results/Recommendations/ Available for trial review?	Cost
STEP Catalog	CD-ROM or www.cnet.navy.mil/netpdtc/ step/stepcat.htm		
NETPDTC ICW	CD-ROM or www.cnet.navy.mil/netpdtc/ icw.html		
Davis Search			
Ditis Search			

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SME Review. Did a subject matter expert review the proposed fill?

Product	SOURCE	SME/ICW	Recommendation

. Detailed Product Review Results (complete for likely fill candidate)

Course Name/Title: _____ _   _ _

Product Type (e.g., CBT/CBI, online course): _____

Interactivity (graphics, animation, fidelity): High, Medium, Low: _____
_____

Min. System Requirements: _____

Predominant Instructional Strategies:
    Drill & Practice: _____

    Tutorial: _____

    Gaming: _____

    Simulation: _____

    Case study: _____

    Problem analysis: _____

    Other: _____

SME Review Section: Please answer each of the questions as they relate to the product you are evaluating. Indicate those questions you are unable to answer. Those questions can be addressed by an ICW developer as the checklist is completed.

Course Structure:	Yes	No	NIA

Start-up

1. The course self-boots.
2. The course includes boot-up instructions.
3. Students register to use the product.
4. Students log on each time they use the course.
5. If **#4** is yes then how does the course track student **&** course data?

    Course ID Number? _____

    Class ID Number? _____

    Trainee Log-on Data (e.g., name, SSN, password)? _____

    Date screen? _____

    Other? _____

6. First-time students receive a course/navigation overview
7. Course overview is optional for returning students.
8. Students can repeat the overview if desired.

Pretest

9. The course includes a pretest.

    If yes, complete questions 10 - 18

10. Each lesson/module of the course includes a pretest.

    If yes does the student receive the results?

11. Students can skip the pretest and move straight to the lesson/module.
12. Pretest results determine a student's track through the lesson/module.
13. A certain score allows the student to bypass the lesson/module.

    If yes, what percentage allows bypass?_____

14. Students only take the pretest once.
15. Pretest scores are stored in a unique student data file.

    If yes, are they recoverable and how?_____

16. Students receive pretest instructions (e.g., #questions, time allowed).
17. Students do not receive remediation or help during the pretest.
18. Students can review missed questions.

Lesson Start.

19. Lesson start has an automatic (i.e., timed) start.
20. The introductory lesson has a manual (i.e., key press) start.

Course Structure (cont'd):   **Yes**   **No**   **N/A**

Demo&rations

21. Does lesson provide demonstrations?   ____ ____ ____
If yes to **#21** answer questions 222-26

22. Demonstrations are optional.   ____ ____ ____

23. Demonstrations cover small increments of instruction.   ____ ____ ____

24. Small demonstrations are "linked" together or form logical progressions. ____ ____ ____

25. Demonstrations require student interaction.   ____ ____ ____

26. The student can pause, repeat, or skip demonstrations.   ____ ____ ____

Simulations

27. The simulation accurately and realistically mimics the procedure/   ____ ____ ____
equipment(e.g., steps aren't skipped, are realistic, properly timed).

28. It contains information not included in the technical data   ____ ____ ____
(i.e., when/why to perform the procedure).

29. Simulations are directly tied to the enabling/terminal objectives.   ____ ____ ____

30. The simulation is a mandatory lesson item.   ____ ____ ____

31. The simulation enables the student to practice to proficiency.   ____ ____ ____

32. Auto-prompted simulations are tailored to the student.   ____ ____ ____

33. Sufficient interim summaries and transitional material is included.   ____ ____ ____

34. Simulations are used to reinforce other learning activities.   ____ ____ ____

35. Simulations are stand-alone activities and not tied to other learning   ____ ____ ____
activities.

36. Simulations are used for testing purposes.   ____ ____ ____

37. The simulation incorporates appropriate feedback and remediation.   ____ ____ ____

38. Helps, hints, prompts are provided based on student activity/action.   ____ ____ ____

Practice

39. Practice provided until the student demonstrates required proficiency. ____ ____ ____

40. Simple repetition of the simulation is not used for practice.   ____ ____ ____

41. Practice is directly tied/relevant to the enabling or terminal objectives. ____ ____ ____

42. Practice is timely/appropriate to the student's learning activity.   ____ ____ ____

43. Practice questions and activities are sequenced from easy to difficult. ____ ____ ____

44. The program can branch the student to additional learning activities   ____ ____ ____
based on practice results.

Course Structure (cont'd):	Yes	No	N/A

Progress Tests

	Yes	No	N/A
45. Each lesson/module includes at least one progress test.	-	-	-
If yes, are progress tests unlimited?	___	___	___
46. Test/progress check questions are not repeated for the same student.	-	-	-
47. Different test questions/activities are used in the pretest and progress tests.	___	___	___
48. The program provides tailored feedback based on progress test results.	-	-	-
49. Additional training, practice and, if appropriate, outside references/sources are provided to the student as feedback.	___	___	___
50. Results can be correlated to the applicable lesson/module, and answers are stored in a test/student specific file and are recoverable.	___	___	___
5 1. Subject matter hints are not provided during the progress test.	___	___	___
52. Students receive feedback on their answers (correct/incorrect).	___	___	___
53. Students are provided with review/remediation based on test results.	___	___	___
54. Students and administrators can receive hard-copy progress test results.	___	___	___

Post-Test

	Yes	No	N/A
55. Each lesson/module has a stand-alone post-test.	___	___	___
56. Test questions, exercises, and simulations are similar in content/ format to earlier learning activities.	___	___	___
57. Test questions, exercises, and simulations are randomly generated.	___	___	___
58. Post-test attempts are limited.	___	___	___
If yes, how many? _____			
59. Scores and student test data are included in recoverable test files.	___	___	___
If yes, what data is included? _____			
60. Students are provided with test performance feedback (e.g., # right/wrong).	___	___	___
61. Students are provided with remediation, lesson repeat, or recommendations for other study/help based on their test results.	___	___	___

Course Structure (cont'd):   Yes   No   N/A

Critique

62 The course includes a student critique.

63 Students can rate content, design, navigation, and other course elements.

64 Student responses, progress/test data, task data, etc. are available for recovery and analysis.

Course Design

65. The course is designed to run on platforms available to the intended audience.

66. Course is consistent throughout in appearance and operation.

67. The course includes easy to use (based on intended audience/platform) bookmarks and clean entrance/exits.

68. Exit and entry points are **frequently** included.

69. Needless repetition is minimized.

70. The course will bookmark and close out if **left** unattended.
If yes, what is the waiting period? _____

7 1 .Students can skip, pause, and/or restart video sequences, animation, or other timed series of stills/motions.

72. Student review is included throughout the lesson.

73. Students can easily navigate throughout the modules after mandatory sections are complete.
If no, is there a reason to limit movement? _____

74. Unless part of a core performance objective, students retain control regarding movement between screens.

75. Icons and interaction buttons are always active or change in appearance to indicate inactivity.

76. The course is logically organized and structured.

77. Students are given an overall macro view of the course (i.e., total modules).

78. Students are provided with typical lesson/module completion times (i.e., total modules).

79. Students receive a listing/organizer of each module's lessons.

80. Each module contains a summary screen.

8 1 .Control lockout feedback is provided.

82. Mandatory sections and their sequence are clearly indicated.

Course Structure (cont'd):	Yes	No	N/A
Menus			
83. Menus are concise, logical, and easy to use.	-	-	___
84. Course is menu driven.	___	___	___
85. Menus reflect only those options currently available to the student via color coding, shading or some other readily apparent indicator.	-	-	-
86. Menus provide a means of cleanly exiting the course.	-	-	-
87. Menu options do not function at cross-purposes to same function icons/buttons (i.e., if a move forward icon is locked out, the move forward menu item would also be locked out).	-	-	-
88. Sub-menus permit movement to higher menus.	-	-	-
89. Confirmation and feedback regarding option selections is provided.	___	___	___
90. Titles are used on all menu screens, main and sub.	-	-	___
91. Status symbols/checks are used to show students completed lessons.	___	___	___
92. Symbols/checks are used to show students mandatory/optional lessons.	-	-	___
93. Tags or indicators coupled to feedback are used to indicate recommended paths.	-	-	-
Help			
94. "Tool-Tip" type help is available at the lesson/screen level.	___	___	___
95. "Balloon Help" is available at the lesson/screen level.	___	___	___
96. "Hyperlinked" help is available at the lesson/screen level.	___	-	-
97. Appropriate help lockouts are included during testing sections.	___	___	___
98. Help menus/sections are intuitive, easy to access, and appropriate for the intended audience.	-	-	___
99. Consistent methods for obtaining help are used throughout the module.	-	-	___
100.**Exiting** help returns the students to the exact point in the course where they initiated the request for help.	-	-	___
10 1.**Help** information is relevant, correct, and complete.	-	-	-
102.**Help** includes links to varying levels of information (e.g., task specific to in-depth background information).	-	-	___
103 .**Help** areas can be displayed adjacent to or in conjunction with the lesson screen.	-	-	___
104.**Help** areas are customizable and include bookmarks.	-	-	___
105.**Help** areas includes a search engine for word/phrase/topic searches.	___	-	-

Course Structure (cont'd):	Yes	No	N/A

Motivation Factors

106. Course material is relevant to the stated objectives. ___ ___ ___

107. Course material is relevant to the target audience. ___ ___ ___
  If yes, is it relevant by job/billet, rate, pay-grade, or other
  descriptors (i.e., age, education)? ___ ___ ___ ___

108. Course modules/lessons are short enough for students to perceive ___ ___ ___
  progress (typically 20-30 minutes).,
  Typical course module length is: _____

109. Course modules/lessons are short **enough** for the student to easily ___ ___ ___
  exit and return to the same module/lesson.

110. Course is challenging for target audience, but not overwhelming. ___ ___ ___

111 Course offers the student **frequent** opportunities for success. ___ ___ ___

112. Course avoids repeating material already known to target audience. ___ ___ ___

113. Background material, suggestions, or directions are available for ___ ___ ___
  students who need additional **help/refresher** training.

114. Varying touchpoints and interactions are used to engage the student's ___ ___ ___
  interest and focus attention. The program avoids **frequent** "touch to
  to continue" or "next" interactions.

115. If used, **humor** is professional and appropriate to the target audience. ___ ___ ___

Audio

116. Sound, if present, complements the text/visuals. ___ ___ ___

117. Visuals illustrate or reinforce sounds. ___ ___ ___

118. Key words and phrases stand out in the audio string. ___ ___ ___

119. Complex issues are simplified. ___ ___ ___

120. Audio does not include extraneous information, unwanted sounds, ___ ___ ___
  or inappropriate pauses.

121. Volume, pace, tone, and voice changes are appropriate. ___ ___ ___

122. Narration is attractive, credible, and engaging. ___ ___ ___

123. Music and background do not compete/conflict with narration for the ___ ___ ___
  student's attention.

124. Music, is used, sets the proper tone for the presentation. ___ ___ ___

125. Sound effects are used (e.g., Push Buttons). ___ ___ ___
  If yes, sound effects are consistent and appropriate. ___ ___ ___

Testing Conventions   **Yes   No   N/A**
Testing standards and test construction may vary given the test's measurement goals.

General Standards

126.**Response** methods are used consistently throughout any given test. ____ ____ ____

127.**Students** must answer the questions in order of their presentation. ____ ____ ____

128.**The** program provides visual feedback to indicate which item the   -   -   -
   student has selected.

129.**The** student can change an answer before it is scored. ____ ____ ____

130.**There** are enough questions/itemsper learning objective..   -   -   -
   The student is informed as to how many questions will be given,
   the approximate time needed to complete the test, and if any
   questions re weighted differently.

13 1.**The** student is given or has the option to select a sample question ____ ____ ____
   for practice prior to starting the test.

132.**The** student is shown the results following each test and provided   -   -   -
   the opportunity to review missed questions.

133.**All** scores are calculated on a 100 point scale. ____ ____ ____

Test Construction

134.**Each** question/problem directly relates to a performance objective. ____ ____ ____

135.**Questions** are concise and clear with no irrelevant words. ____ ____ ____

136.**There** is only one question per screen unless it is an exercise or ____ ____ ____
   simulation (i.e., matching).

137.**Each** question is independent. ____ ____ ____

138.**Question** address key points. It's not a trivia test. ____ ____ ____

139.**Safety** related items are tested one time per type of test. ____ ____ ____

140.**Information** that is on an "optional" track during the program is not ____ ____ ____
   tested.

141 .**Test** questions are sequenced so that more difficult questions are ____ ____ ____
   toward the end of the test with the exception of randomly generaged
   test questions.

142.**For** multiple choice, the correct answer position varies. ____ ____ ____

Feedback andRemediation

143.**Negative** feedback in the form of abuse or ridicule is not used.

144.**Where** possible, feedback or remediation is specific to the action
the student is trying to perform.

145."**Cute**" feedback is not used.

146.**Level** of feedback or remediation compares to the difficulty of the
action or question.

147.**Positive** feedback is not given too frequently or for trival
accomplishments.

148.**Feedback** and remediation of safety-related actions is given in
terms of consequences.

149.**Students** having considerable difficulty with the material receive
immediate remediation.

150.**Remediation** is provided throughout all modules other than test.

Design Conventions	Yes	No	N/A
Personnel conventions			

15 1 .**Military** Personnel comply with service dress and appearance.
Uniform combinations are correct and consistent throughout the production.

152.**Actors,** role players, and participants use **safe procedures** and comply
with directives and all applicable safety rules and regulations

Language Conventions

153.**The** program (text or narration) uses active voice.

154.**The** program uses inoffensive non-sexist language.

155.**The** tone is clear, concise, and courteous.

156.**The** program used the imperative mode with the subject understood
or **implied** to address the student.

157.**Sentences** are short and to the point.

158.**The** program uses affirmative sentence structure whenever possible.

159.**Abbreviations** and technical jargon, if used, are **common** knowledge
to the target audience or they are defined in the lesson.

160.**The** program does not use slang or non-technical jargon.

161 .The student can easily look up abbreviations and technical jargon in a
glossary or help section. .

162.**New** terms are defined the first time they appear in a module.

163.**Terms** and **definitions** are consistently used throughout the program.

164.**The** program's language is appropriate for the target audience.

165.**Sentences** do not wrap over multiple screens.

ICW Developer Review Section: This section will generally be reviewed by an ICW developer. In addition to the questions in this section, the ICW developer will also look at those questions the SME was unable to answer.

Design Conventions	Yes	No	N/A

Video and Animation Conventions

166.**Courseware** that requires outside media (i.e., a video clip from a CD-ROM) has a still frame that identifies the media, file, and any other information the student would need to access the media. ___ ___ ___

167.**Videos,** stills, animation, and other graphics designed to portray equipment do so accurately. ___ ___ ___

168.**Titles,** captions, or highlights over motion video, with the exception of learner control prompts, are done with video post-production techniques, not the ICW authoring system. - - -

169.**"Fade** to black" and "up from black" are used for the end and beginning of linear video segments. - - -

Navigation and Control Conventions

170.**The** courseware's navigation system is consistent, intuitive, and conforms to the ICW Standards and Style guide. ___ ___ ___
    If no, why? _____

17 1 *Navigation/interaction icons, buttons, and switches consistently use color, shading, or other visual cues to indicate position/mode. - - -

172.**Icons** are located at the bottom of the student's screen, are consistently placed, and are consistent in their function. - - -

173 .**Tool** tips, balloon help, or other assistance exists to define icon function. - - -

Switches and Control Conventions

174.**Switch/control** text matches the real equipment as closely as possible. ___ ___ ___
175 .**Switch/toggle** names, positions, and identifiers are legible. ___ ___ ___

. General Conventions

176.**Displays** are lean and not overly complicated. ___ ___ ___
177.**Where** needed, text is used to emphasize the visuals. ___ ___ ___
178.**Appropriate** headings are used to clarify displays. ___ ___ ___
179.**Text** or icons are not (normally) stored on video/video stills. ___ ___ ___
180.**Where** possible, split-screens are used for comparisons. ___ ___ ___
18 1 .**Changes** between screens are limited to focus on the changed element. ___ ___ ___
182.**Screens** are systematic, consistent, and logically organized. ___ ___ ___
183.**Each** screen presents one main point, idea, concept, step, or action. ___ ___ ___

Design Conventions (cont'd):   Yes   No   N/A

General Conventions

184. **First** and last screens within a lesson/module introduce and reinforce ____ ____ ____
key points.

1&Transition screens are used to move from wide-angle to close-up view. ____ ____ ____

186. **Transition** screens are used when moving **from** one physical area to   _   I   _____
another.

187. **Graphics,** text, and other media work together to build a mental   ____ ____ ____
image/model.

188. **Screens** have sufficient "white space" to avoid overcrowding.   ____ ____ ____

Text Design Conventions

189. **Text** follows normal capitalization standards (i.e., text isn't all caps). ____ ____ ____

190. **Text** overlays are displayed on a contrasting color bar or box.   ____ ____ ____

191 .**Borders** are used around text bars or boxes.   ____ ____ ____

192. **The** program uses consistent text format (e.g., font, spacing, color). ____ ____ ____

193. **Consistent** text and background colors differentiate types of screens. ____ __ ____

194. **Text** is normally displayed within an area as "left justified."   ____ ____ ____

195. **Text** is not underlined except to indicate a special characteristic   ____ ____ ____
(i.e., an active hyperlink).

196. **Screens** are not crowded with too much text. There should   ____ ____ ____
be no more than about 10 lines of text per screen.

197. **Font** size supports easy reading by the student.   ____ ____ ____

198. **Text** columns are **sufficiently** wide (40-50 characters wide).   ____ ____ ____
Text is not in small **"news** columns" or in overly large
columns (approx. 80 characters wide).

199. **Full** text screens, bars, or boxes are not overlaid on other text items ____ ____ ____
unless they are Help overlays.

200. **Pop-up** text displays located on top of graphics can be removed.   ____ ____ ____

Text Location Conventions

201. **Navigation** text is located at the bottom of the display window or   ____ ____ ____
as a pull-down/pop-up menu.

202. **Technical** data notes are located in Help, pop-up windows, or as   ____ ____ ____
boxes in the upper right band display area.

203. **Safety** and Warning text is displayed in Help, pop-up windows,   ____ ____ ____
or as boxes in the upper **left** hand comer of the display window.

204. **Simulations** accurately mimic real information displays.   ____ ____ ____

205. **Information** text, test questions, and **feedback/remediation** are located ____ ____ ____
where best possible for the learner to see them without interfering with
graphics, navigation text, warnings, or safety notices.
Placement should be consistent.

206. **Test** questions and answers are differentiated by color, bullets,   ____ ____ ____
and/or location.

Design Conventions (cont'd):	Yes	No	N/A

Color Display Conventions

207.**The** program does not use solid white, or bright color backgrounds (e.g., yellow, red). ____ ____ ____

208.**Information** is displayed as white text on a blue/dark background. ____ ____ ____

209.**Warnings** and incorrect feedback are in red text. ____ ____ ____

210.**Warnings** and safety notices are prefaced by "WARNING" or "SAFETY". ____ ____ ____

2 11 .Safety/Caution notices or information is displayed as yellow text on a black/dark background. ____ ____ ____

2 12.**If** used, navigation text is should be consistent with navigation icons (e.g., color, placement). ____ ____ ____

2 13.**Standard** color conventions are used for highlighting. ____ ____ ____

214.**Highlighting** key words in text, captions, switch names, or switch positions is minimized. ____ ____ ____

2 1 5.**Flashing** text is only used to accurately portray/simulate equipment displays. - - -

Computer-Generated Graphics

216.**Learner** can control initiating animation sequences or can repeat them. - - -

217.**Computer** graphics are limited to essential areas. ____ ____ ____

2 18.**The** program uses only essential ornamentation, patterns, or effects. - - -

2 19.**Graphic** files are cropped and stored with associated media in a library for reuse within the program. - - -

220.**Program/program** graphics are designed for run/display using a 256 color palette. ____ ____ ____

22 1 .**Selected** formats based on program needs are supportable across the organization. Currently SWS III software will support the following raster formats: **(bmp,** tif, **gif,** pcx, jpeg, tga,) as well as vector formats: **(WMF,** CGM, AI, EPS). [AI and EPS require postscript for output capability.) - - -

Areas under development:

Graphics

Language Conventions **completed?**

General and Specific Screen Design Conventions (text, color, highlights)

- Avoid using complimentary colors together (i.e., yellow text on top of green background or red text on top of blue background)

Testing Conventions **completed?**

Feedback and Remediation

Authoring **should be primarily Authorware**

Modifications

Platform Limitations/Variables

- Will the product run correctly on the SWSIII **hardware/software?**

Other questions/issues to consider

Lesson remediation (e.g., automatic, variable, # tries)? _____

Lesson branching? _____

Lesson refresher (i.e., trainee elective)? _____

Lesson assignment (i.e., progression based on testing)? _____

Data Recovery (e.g., test data, time on screen)? _____

Testing. Does the course contain testing? _____

Test bank database? _____

    Pre-testing? _____

    In-lesson test administration? _____

    End-of-lesson test administration? _____

    Comprehensive multi-lesson testing? _____

Add weights to come up with numerical score? _____

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Commercial and Government Off-the-Shelf (COTS/GOTS)
MK "A" Product Search Results
Update #7 (final)

Date: 23 September 1997
To: Chief, PAD Branch
From: LCDR Arnold
Copy: Chief, PTC
     Chief, ADD Branch
     Chief, Engineering and Weapons School

Summary

Completed Review. A complete review of our COTS/COTS product search for Mechanical Skills curriculum matches is included in the Subject Area Matrix. Currently the ITC and Alfa-Laval products are the most likely CBT course fills. Detailed comments for those two sources are provided after this summary. One trend has emerged during this project: companies with videos or other products are striving to either protect their current market share or gain new markets by creating CBT/CBI products. So, although this is the "final" COTS/GOTS update we really should conduct follow-on checks for available products *prior* to beginning new module development or allocating any funds, especially from companies with products already under development. I can't emphasize enough the fluid nature of this market! Finally, we are somewhat constrained from beginning broad new reviews/searches for additional project fills due to current personnel shortages and other priorities.

Mechanical Skills COTS/GOTS Search

Videotapes with Workbooks and Industry Trends. The matrix also includes training videos with workbooks. These products are potential fills *if we* include conversion from instructor-led training to the video w/workbook methodology. Of those products, the Coastal Skills Video series shows the most promise. However, significant work is needed to improve their workbooks (e.g., more specifics/comprehensive, non-tailor-able content). Caterpillar also has a range of detailed videos with workbooks/student guides. Most of the companies with videotape and workbook training programs are in the process of creating CBT courseware deliverable via CD-ROM. Like most "vaporware", delivery dates, costs, and functionality for these potential products may vary widely from the sales/marketing staffs' initial estimates. Of the companies converting to CBT, the Coastal Skills and Caterpillar series are potential fills. Coastal's existing CBT is primarily focused on Human Resources topics (i.e., sexual harassment) with engineering applications under development. Caterpillar is aggressively marketing multimedia versions of their 3500 and 3600 series of engines to the U.S. Army and Marine Corps. They're also developing new general multimedia products on subjects like principles of operation for diesel engines. I'm currently working to set up a caterpillar demo in the near future.

Enclosure (3)

Conducting New/Updated Searches. As previously discussed; we've complete&our active search for new products. However, we should caveat any final request for funding via the IP with a plan to conduct a final very *focused* review in the areas the program manager agrees 'to fund. This includes student trials and comparative time analyses of identified products and a final search for new ones *prior* to expending funds on significant course buys or course conversions. This ensures we won't waste money or become terribly embarrassed as we launch development. This is especially true given the potential lag-time between completing the search, requesting funding, and actual allocation/programming of funds. I believe there may be some desire (and I share it) to push development forward if funding is secured. However, given the industry's rapid pace of change we should be loath to start significant design and development without a final very focused COTS/GOTS check. This will include a quick Internet search, queries to already identified vendors, and a final update from the schoolhouse.

Student Trials. Although we've based our initial acceptance of the commercial-products on instructor and PTC staff review we need to conduct at least some preliminary trials involving the typical student (MK "A"). I intend to run small groups of students through the modules after the MK "A" gauge prototype is delivered. I don't want to hold up development of an IP but I also want to verify students can truly use the COTS products. We'll test out the Alfa-Laval product first by measuring time to complete the program, ability to learn the content, and student satisfaction. I won't reorder the ITC products unless we're able to secure funding.

Software Copies and Costs. Costs for the same piece of software can vary greatly based on procurement options (e.g., single copy or volume, network or solitary workstation). Buying enough individual software copies for each workstation can become prohibitively expensive, regardless of how the software is delivered (network or individual CD). I do not expect this to change. Also, we must consider the costs for procuring upgrades and revisions over the full life cycle of the planned curriculum. These updates can, over the long run, be far more expensive than the initial software purchase. One method to reduce costs while still fully employing the lab (assuming a lab size to accommodate a full MK "A" class) is to buy no more than 5 – 10 copies of an individual product and set up a flexible curriculum. For example, students will not all be taking the same course at the same time. Small sets-of students can work through each lesson, move to the lab for practical exercises, then return for further training. Specific costs for the various products we've looked at are included in the matrix and the Mechanical Skills section that follows.

Mechanical Skills
Internal Combustion Engines, Inboard/Outboard Engines, Hydraulics
Summary. We found one product (series) from Industrial Training Corporation (ITC) and one product from Alfa Laval Industries that met the following rough criteria:
- Not too complex for intended audience
- Rough match to existing curriculum
- Flexible/adaptable
- Includes workbook and resource information.

Enclosure (3)

Industrial Training Corporation (ITC) Active Pro Series. ITC's Active Pro series. includes modules covering several mechanical skills content areas. SME availability and reduced ADD staffing precluded us from running comprehensive student tests prior to recommending the software. However, based on SME and close ADD/PAD staff review the ITC products can meet our basic needs. A key factor behind this evaluation is our ability to add subject screens with graphics, audio, and other media to their product that, in effect, enables *us* to *customize the product without any additional external costs.* Although we can't remove screens, this capability will enable us to build a product quite rapidly that meets the school's *exact* needs -both now and in the future. The following eight ITC lessons are suitable curriculum fills in roughly their current form:

- Mechanical Seals .
- Bearings-Reducing Failure Rate (2 lessons): Failure Analysis/Maintaining Bearings
- Precision Measuring Instruments
- ITC's System Operation and Directional and Flow Control units (2 units) from their Industrial Hydraulic Power series would also make suitable fills provided we conduct some modification to the courseware
- ITC's Lubricants module (2 lessons) maps to the current MK "A" Unit 5 Internal Combustion Engine, "Lube oil Characteristics." CDR Hood reviewed this product and has recommended it for use in the "A" school curriculum with some specific caveats—:
    1. The ITC ICW covers Greases where the MK "A" does not.
    2. ITC ICW does not cover Navy oil symbols or Saybolt Seconds.
    3. We suggest that we develop a CBT module on laboratory and shipboard oil 'analysis and job aids for oil samples and performing shipboard tests using the Visguage and Gerin Oil Test Kit.

An updated ITC cost quote that outlines their pricing options is attached. In summary, we can outfit a 30 workstation lab with 8 networked lessons per workstation for a total charge of $70,340.00 ($293.00 /lesson). Scaling down to 10 workstations with 8 lessons per workstation will cost $33,220.00 ($415.00/lesson). Both of these options include the. cost for their ActivePro™ network software and a robust CMI system that tracks student performance, collects test data, and performs other administrative functions. A straight purchase of 8 individual lessons for one workstation is $5,400.0 ($675.00/lesson). However, procuring enough lesson copies to support simultaneous instruction on only 10 computers would cost over $50K.

Which procurement option should we select, or at least recommend? I considered at least four main factors: number of workstation/students planned for the lab (accommodate max capacity), curriculum flexibility (ability to integrate lecture, lab, and CBT lessons given students will move at different rates through the CBT lessons), budget constraints, and lab architecture (network availability and limitations). I've assumed approx. 30 students and a flexible curriculum that enables students to quickly shift between class, hands-on labs, and the computer lab. The $70K option saves money for all but the smallest implementation plans. It offers us the best opportunity to manage a flexible curriculum tailorable to students with different skills.

Enclosure (3)

Alfa Laval Separation, Inc. One of the few very good commercial fills we could find that met our criteria. The software cost is relatively low and we can negotiate price reductions for multiple copies/networked stations. The base price of **$440.00/copy** is not unreasonable given the finished product's quality. **MKC** Wood, tew reps, and I reviewed the finished release version. The course includes more material **than** what the typical "A" school student would need. However, I envision using selected modules **from** the CBT program coupled with locally developed question/problem sheets and a short lab demo. The course would be a good tool for enabling students at the **"A"** or "C" school level to gain a more thorough understanding of the system's operating principles and foundational knowledge. Bottom line: complete this course and you will thoroughly understand how the **fuel/lube** oil separator works. In the words of the reviewing SME:

> "This should be required viewing for anyone going to a ship with purifiers or clarifiers. After completing the sections and passing the tests I was confident I could walk up to that unit (the Alfa Laval system), light it off, and make clean lube/fuel oil".

Specific comments are:

- The course thoroughly and completely covers the Alfa Laval separator used by the Coast Guard. There are numerous graphic simulations and text that coincide with the "A" school curriculum. However, it covers **far** more material than the typical "A" school student would need or probably want. A suitable work around could include providing the student with a workbook, note sheets, or similar system to pinpoint needed information. However, the additional material it is not so complex that it would preclude "A" school student use. We cannot currently delete or add screens to the program without significant additional cost (unlike the ITC series)..
- The program would be an excellent fill for a "C" type course.
- The program contains over **30** "**bugs**" in its initial release version. None are showstoppers and **we've** passed our review results on to the **Alfa-Laval** rep. I anticipate they'll take corrective action soon.
- The **program** includes an initial aptitude test that is used to tailor training to the respondent's level--a nice feature. Students must interact to keep progressing.
- The program contains 4 modules that take approx. 45 minutes each (3 hours) for experienced personnel to take. Overall program completion time is approx. 6 hours for less experienced personnel. **Of that "A"** school could use less than one hour and "C" school about three. Each module **contains** a percent completion bar ---a handy indicator of how far along you are in the module. The indicator helps students **from** getting discouraged or hurrying along.
- Each module includes well-placed learning activities, quizzes, and.a final exam. The final exam includes several questions that are not adequately covered in the learning sequences (may be a **function of the** pre-test). You can fail all of the quizzes but must pass the final test. After ten final test tries the program dumps and must be reloaded. The large program completiontime delta (3 – 6 hours) is largely a **function** of the detailed testing and number of attempts needed to pass the tests.

Enclosure (3)

16-30

- Media is very professional. Audio, graphics, and animation files significantly add to and support instruction.
- The program includes a Course, Management System to track student performance. We have not yet conducted trials linking it to our Authorware Models based CMS system but it should work

Enclosure (3)

Subject **Area Matrix**

Subject **Matter Area:**   Lube & Fuel Oil Purifiers

COTS or DoD/Fed Source/Status	MK Comments	ADD Comments/Level of Interactivity	Cost	Potential Training Reduction	Recommendations
Activ™ Learning- *Fundamentals of Lubrication* POC: Edwin Winder, 800.638.3757	ITC's Lubricants module (two lessons) maps to the current MK "A" Unit 5 Internal Combustion Engine, "Lube oil Characteristics." CDR Hood	Level II Interactivity; good production values, CMI. Needs some mod.	$675.00/lesson	TBD. CBT course (both lube lessons) is 4-8 hours	Procure. Conduct student trials for finished data prior to expending funds. Initial trials with ADD & tew staff indicate this product can meet our needs. Modify as needed.
Activ™ Learning- *Lubrication Maintenance* POC: Edwin Winder, 800.638.3757	ITC's Lubricants module (two lessons) maps to the current MK "A" Unit 5 Internal Combustion Engine, "Lube oil Characteristics." CDR Hood	Level II Interactivity; good production values, CMI. Needs some mod.	$675 .00/lesson	TBD. CBT course (both lube lessons) is 4-8 hours	Procure. Conduct student trials for finished data prior to expending funds.' Initial trials with ADD & tew staff indicate this product can' meet our needs. Modify as needed.
Alfa Laval CBT Module POC: Scott Seifert 215.443.4000	Fill. More material than needed but covers "A" and "C" school needs. You complete this you'll know the AlfaLaval system.	Level II Interactivity; Covers Principles of Separation; includes testing and CMI; Currently testing with students and instructors.	$440/copy (one workstation)	Current course is 12.2 hours. CBT course length is approx. 3-6 hours. Student trials pend.	Procure. Conduct student trials for finished data prior to expending funds. MKC Wood currently conducting trials in conjunction with the MK "A" Module testing. Initial trials with ADD & tew staff indicate this product can meet our needs.

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Subject Matter Area: Mechanical Skills

COTS or DoD/Fed Source/Status	MK Comments	ADD Comments	Cost	Potential Training Reduction	Recommendations and Further Action
Activ™ Learning- *Precision Measuring Instruments* POC: Edwin Winder, 800.638.3757	"Closely mirrors current curriculum"	Level II Interactivity; good production values. CMI ; Maps well to Master Lesson Plan- *Measuring Tools and Instruments*	$675 per lesson (one workstation)	Current course is 2 hours CBT course is 2-4 hours.	Recommended "fill" for knowledge based tasks with some modification. Set up and coordinate student trials with schoolhouse, prior to purchase.
Activ™ Learning ICW: *Mechanical Seals* POC: Edwin Winder, 800.638.3757	"Covers most topics in curriculum; too complex in some areas"	Level II Interactivity; good production values, CMI. Needs some mod.	$675 per lesson (one workstation)	Current course is 1 hour. CBT course is 2-4 hours	Recommended "fill" for knowledge based tasks with some modification. Set up and coordinate student trials with schoolhouse, prior to purchase.
Activ™ Learning ICW: *Bearings: Failure Analysis* POC: Edwin Winder, 800.638.3757	Covers content with exception of "shipboard testing"	Level II Interactivity; good production values, CMI. Needs some mod.	$675 per lesson (one workstation)	Current course is 1 hour. CBT course for both lessons is 4-8 hours	Recommended "till" for knowledge based tasks provided product modified. Set up and coordinate student trials with schoolhouse, prior to purchase.
Activ™ Learning ICW: *Bearings: Maintaining Bearings* POC: Edwin Winder, 800.638.3757	Covers content with exception of "shipboard testing"	Level II Interactivity; good production values, CMI. Needs some mod.	$675 per lesson (one workstation)	Current course is 1 hour. CBT course for both lessons is 4-8 hours	Recommended "fill" for knowledne based tasks provided product modified. Set up and coordinate student trials with schoolhouse, prior to purchase.

16-33

Subject Matter **Area:**   Clutches & Gears

COTS or DoD/Fed Source/Status	MK Comments	ADD Comments	Cost	Potential Training Reduction	Recommendations and Further Action
Tel-A-Train: *Maintaining & Troubleshooting Gear Reducers;* Videotape with computer-based testing and tracking system	TBD	Although not direct CBT, the product may be suitable for the project with improved workbook	$465/copy	TBD	Confirming if unit cost includes multiple test packages (pends) Not a first tier fill but has potent

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Subject Matter Area   Inboard Outboard Engines

COTS or DoD/Fed Source/Status	MK Comments	ADD Comments	cost	Potential Training Reduction	Recommendations and Further Action
OMC	N/A	OMC does not use CBT nor do they anticipate developing any CBT. They have tentativtly granted **approval** for us to use their graphics and media images in our products at no cost.	-0-	N/A	Check with Outboard School to see w is constructed in-house. Similar result manufacturers (i.e., Evinrude)

Enclosure (3)

Subject Matter Area Internal Combustion Engines

COTS or DoD/Fed Source/Status	MK Comments	ADD Comments	Cost	Potential Training Reduction	Recommendations and Further Action
Caterpillar H.J. Freliche 309.578.6219 Videotape rendering of 3600 series engine training manual. Also being investigated by WLB/WLM project.	• Not reviewed to date. Will order if approach appears viable	• Videotape series includes student workbooks/guides that match up with the training videos. Students have background materials and problems to solve in a self-paced &stem. Company is moving to a CD-ROM delivery and is aggressively moving to market the materials to the Army and Marine Corps. • Five tapes that cover development & design of 3600 series engine. Includes lubricating, intake & exhaust, cooling, turbocharger, and combined/ separate circuit systems. Also includes cylinder head design, serviceability, removal, and inspection, removal of piston and liner assemblies, removal and replacement of a main bearing, and a video rendered slide show of the Woodward governor. • Four tapes that cover the operation & maintenance of the 3600 engine. Features general overview of system components and systems, control and protection systems, start up and shutdown procedures, oil change, and daily, 100,250, 1K, 2K, and 7.5K hour maintenance/service procedures. • Tape series runs from approx. 21 to 37 minutes each.	• Development & design tapes cost $60.00 • Operation & . maintenance tapes cost $50.00	N/A	Order and review' one set videotape delivery of curriculum becomes viabl Continue to monitor development of CD-ROM based versions and new materials. Working to set up demo a RTC of CBT version.
Patterson Instruments/Cobalt- *The Marine Diesel Engine*	• Valid content; too in-depth for "A" school • Might be useful as part of integrated "set" of ICW modules	• Powerful free-play simulations enable learner to input and react to different equipment states, settings, failures, and conditions • Developer may be able to cost-effectively eliminate extraneous information Interactivity Level: II	• First Suite- $2600 • 49 Add'l ficences-$4900 • Review of their modification proposal is on-going	N/A	May be applicable to upp level training ("C", Academy) or Healy Project Need to remove upper level material and comple systemsprior to using in MK "A" internal combustion engine modu

Subject Matter Area Valves

COTS or DoD/Fed Source/Status	MK Comments	ADD Comments	Cost	Potential Training Reduction	Recommendations and Further Action
Tel-A-Train: *Maintaining Valves;* Videotape with computer-based testing and tracking system	TBD	Although not direct CBT, the product may be suitable for the project with improved workbook	$675/copy T B D		Confirming if unit cost includes multiple test packages Not a first tier fill but has potential
Coastal Skills Training (Videotape w/Workbook)-*Valve Basics (Series of 3, '$1,350)*	Good product based on cursory review. Requires in-depth review prior to accepting	Coastal skills tapes are in use with EM school. Initial MK review of entire series indicates that the tapes, if Coastal Skills prepares a good student guide/workbook 'would be good fills.	-0-	TBD	Not a first tier fill but has potential

Enclosure (3)

Subject Area Air Conditioning & Refrigeration

COTS or DoD/Fed Source/Status	MK Comments	ADD Comments	COSt	Potential Training Reduction	Recommendations and Further Action
Tel-A-Train: *Handling & Transporting **Hazardous** Materials/DOT HM 126F- **General** Awareness Training;-* Videotape with computer-based testing and tracking system	TBD	Although not direct CBT, the product may be suitable for the project with improved workbook	$495/copy	TBD	TBD
Tel-A-Train: *Handling& Transporting Hazardous Materials/DOT HM 126F-Saftey Training;* Videotape with Computer-based testing and tracking system .	TBD	Needs review; completion date TBD	$495/copy	TBD	TBD
Tel-A-Train: *Introduction to Air Conditioning and Refrigeration;* Videotape with Computer-based testing and tracking system	TBD	Although not direct CBT, the product may be suitable for the project with improved workbook	$495/copy	TBD	TBD

.) Enclosure (3)

Subject Area   Hydraulics

COTS or DoD/Fed Source/Status	MK Comments	ADD Comments	Cost	Potential Training Reduction	Recommendations and Further Action
Activ™ Learning ICW: *Industrial Hydraulic Power* *Hydraulic Systems Operation*	Not as complete as MK "A" School material; Covers most material	Suitable for use with local modification. Relatively simple to add needed information due to ITC's internal modification capability	$675/copy	Current course is 2 days class & 1 lab day. CBT course est. at 4-8 hours based on using 2 of 5 ITC hydraulic units (pro-rated 10-20 hours).	Could be used with some adaptation. Recommend procurement provided resources can be assigned to add needed information and merge with lab exercises.
Activ™ Learning ICW: *Industrial Hydraulic Power:* *Directional and Flow Control*	Requires some modification	Suitable for use with local modification. Relatively simple to add needed information due to ITC's internal modification capability	$675/copy	Current course is 3 days. (see above)	Could be used with some adaptation. Recommend procurement provided resources can be assigned to add needed information and merge with lab exercises.
Elizabeth City: *Course under development (currently on hold) by the CBT design and development team at ATC Elizabeth City*	Will review Alpha copy after completion TBD	Will schedule review with SME after initial check. Course not yet delivered from E-City.	$0	TBD	Check current class for course length and pick up current LPO/Curriculum guide for comparative task analysis
Tel-A-Train: *Industrial* **Hydraulic Technology/** *Hydraulic Transmission of Force and Energy;* Videotape with computer-based testing and tracking system	TBD	Although not direct CBT, the product may be suitable for the project. Based on FAA experience the course may become too difficult to manage if we mix too many delivery methodologies	$495	TBD	Check current class for course length and pick up current LPO/Curriculum guide for comparative task analysis